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A PRELIMINARY LIST OF INSECTS AND MITES THAT INFEST SOME IMPORTANT BROWSE PLANTS OF WESTERN BIG GAME

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ABSTRACT

The insects that damage some important browse plants on western big game ranges are listed alphabetically by their scientific names. The host plants which are included belong to the genera Amelanchier (serviceberry), Ceanothus, Cercocarpus (mountain mahogany), Purshia (bitterbrush) and Salix (willow).

Shrubs of the genera *Amelanchier*, *Ceanothus*, *Cercocarpus*, *Purshia*, and *Salix* are important browse for western big game. During winter, such animals as deer, elk, moose, antelope, bighorn sheep, and mountain goat might depend on these woody plants for their survival. The condition of the plants affects their nutritive value to animals and is lessened by damage done by insects. However, the relationship of insects and browse plants has not received much study (Furniss and Krebill in press).

This preliminary list is published to aid those concerned with management or study of the shrubs. It includes only the insect species believed to damage their host plants. Omitted are all parasitic and predacious species as well as those that appear to have been merely perching on the plants. Often, the damaging stage of insects was immature and difficult to identify, sometimes even to genus. Insects not identifiable to genus are omitted.

Most records have been obtained recently during surveys of insects on the shrubs involved in Idaho and, to a lesser extent, in adjacent States. Colleagues have provided information on insect groups and have assisted in the surveys, as noted in Acknowledgments. Collections have been most intensive on bitterbrush, a plant frequented by large numbers and many kinds of insects.

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The list is organized alphabetically by scientific names of the host plants and insects. That is, the generic plant names are in alphabetical order and the insects that affect them are presented alphabetically, first by order, then by family, genus, and species. The parts of the plant that are damaged are indicated when known and references are noted. In addition to the references noted, Essig (1956) is a helpful general reference. The list is published with the hope that it will stimulate greater interest in these insects and that a more complete and useful list will eventually result.

HOST: *AMELANCHIER* SPP. (SERVICEBERRY)

<u>Species</u>	<u>Part affected</u>	<u>Reference</u>
COLEOPTERA		
Buprestidae		
<i>Agrilus vittaticollis</i> (Randall)	Stem	
Curculionidae		
<i>Magdalis</i> sp. prob. <i>salicis</i> Horn	Stem	
Scolytidae		
<i>Chaetophloeus heterodoxus</i> (Casey) (= <i>Renocis</i>)	Stem	Chamberlin 1955
DIPTERA		
Cecidomyiidae		
<i>Contarinia</i> sp.	Fruit	
<i>Trishormomyia</i> ? <i>canadensis</i> (Felt)	Leaf galls	
HOMOPTERA		
Aphididae		
<i>Prociphilus alnifoliae alnifoliae</i> (Wms.)	Leaves	
Coccidae		
<i>Phenacoccus dearnessi</i> King		McKenzie 1967
Diaspididae		
<i>Lepidosaphes ulmi</i> (Linn.)	Stem	
HYMENOPTERA		
Tenthredinidae		
<i>Hoplocampa</i> sp.	Fruit	
LEPIDOPTERA		
Nymphalidae		

<u>Species</u>	<u>Part affected</u>	<u>Reference</u>
<i>Nymphalis californica</i> (Boisd.)	Leaves	Bryant 1911 Storer 1933 Tevis 1953
Psychidae		
<i>Apterona helix</i> Siebold	Leaves	Robinson 1953
Lasiocampidae		
<i>Malacosoma californicum</i> (Packard)	Leaves	Stehr & Cook 1968
Tortricidae		
<i>Archips cerasivorana</i> Fitch	Leaves	

HOST: *CEANOTHUS* SPP. (*CEANOTHUS*)

<u>Species</u>	<u>Part affected</u>	<u>Reference</u>
COLEOPTERA		
Buprestidae		
<i>Acmaeodera nixa</i> Fall	Stem	
<i>angelica</i> Fall	Stem	
<i>mariposa</i> Horn	Stem	
<i>vandykei</i> Fall	Stem	
<i>sinuata sennotata</i> Van Dyke	Stem	
<i>Anthaxia deleta deleta</i> LeC.	Stem	
<i>Chrysobothris mali</i> Horn	Stem	
<i>Dicerca horni</i> Crotch	Stem	
<i>Polycesta californica</i> LeC.	Stem	
Cerambycidae		
<i>Anoplodera crassipes</i> LeC.	Stem	

DIPTERA

Cecidomyiidae	
<i>Asphondylia ceanothi</i> Felt	Buds

HEMIPTERA

Pentatomidae	
<i>Euschistus conspersus</i> Uhler	Immature fruit
<i>Holcostethus abbreviatus</i> (Uhler)	
Tingidae	
<i>Corythucha obliqua</i> Osborn & Drake	Leaves

<u>Species</u>	<u>Part affected</u>	<u>Reference</u>
HOMOPTERA		
Aphididae		
<i>Aphis ceanothi</i> Clarke	Leaves	
Cercopidae		
<i>Clastoptera ovata</i> Doering	Stem	
Coccidae		
<i>Pseudococcus maritimus</i> Ehrhorn		McKenzie 1967
<i>Puto albicans</i> McKenzie		McKenzie 1967
<i>yuccae</i> Coquillet		McKenzie 1967
<i>Rhizoecus bicirculus</i> McKenzie		McKenzie 1967
<i>Spilococcus ceanothi</i> McKenzie		McKenzie 1967
<i>quercinus</i> McKenzie		
Psyllidae		
<i>Arytaina robusta</i> Crawford	Leaves	
HYMENOPTERA		
Cimbicidae		
<i>Zaraea americana</i> Cress.		
Eurytomidae		
<i>Eurytoma squamosa</i> Bugbee	Seed	
LEPIDOPTERA		
Geometridae		
<i>Itame quadrilineata</i> (Pack.)	Leaves	
<i>Nematocampa filamentaria</i> Gn.	Leaves	
<i>Scopula junctaria quinquelinearia</i> (Pack.)	Leaves	
Lymantriidae		
<i>Orgyia vetusta gulosa</i> (Boisd.) (= <i>Hemerocampa</i>)	Leaves	Atkins 1958 Brown & Eads 1965 Furniss & Knopf 1971 Volck 1907
Lasiocampidae		
<i>Malacosoma californicum</i> (Packard)	Leaves	
Nymphalidae		
<i>Nymphalis californica</i> (Boisd.)	Leaves	See serviceberry
Tortricidae		
<i>Archips argyrospilus</i> (Wlk.)	Leaves	

<u>Species</u>	<u>Part affected</u>	<u>Reference</u>
ACARINA		
Eriophyidae		
<i>Aceria ceanothi</i> (K.)	Leaf galls	

HOST: *CERCOCARPUS* SPP. (MOUNTAIN MAHOGANY)

<u>Species</u>	<u>Part affected</u>	<u>Reference</u>
COLEOPTERA		
Buprestidae		
<i>Acmaeodera knowltoni</i> Barr	Stem	
<i>vandykei</i> Fall	Stem	
<i>idahoensis</i> Barr	Stem	
<i>Anthaxia deleta deleta</i> LeC.	Stem	
<i>simiola</i> Casey	Stem	
<i>Chrysobothris mali</i> Horn	Stem	
<i>Dicerca horni</i> Crotch	Stem	
<i>Polycesta californica</i> LeC.	Stem	
Scolytidae		
<i>Chaetophloeus heterodoxus</i> (Csy.) (= <i>Renocis</i>)	Stem	Chamberlin 1955

DIPTERA
Tephritidae
<i>Paroxyna</i> spp.

HEMIPTERA
Miridae
<i>Microphyllelus</i> sp.
<i>Psallus alnicola</i> Douglas & Scott
Pentatomidae
<i>Thyanta pallidovirens</i> (Stål)

HOMOPTERA
Cicadidae
<i>Platypedia putnami</i> (Uhler)
Coccidae

<u>Species</u>	<u>Part affected</u>	<u>Reference</u>
<i>Lecanium</i> sp.		
Psyllidae		
<i>Euphalerus adustus</i> Tuthill		
<i>Psylla</i> sp., near <i>acuta</i> Crawford		
<i>Psylla magna</i> Crawford		
HYMENOPTERA		
Tenthredinidae		
<i>Amauronematus</i> sp.	Stem	
LEPIDOPTERA		
Ethmiidae		
<i>Ethmia discostrigella</i> (Chambers)	Leaves	
Geometridae		
<i>Anacamptodes clivinaria profanata</i> (B. & McD.)	Leaves	Furniss & Barr 1967 Furniss 1971a
<i>Marmopteryx animata</i> Pears.	Leaves	
Lasiocampidae		
<i>Malacosoma californicum</i> (Packard)	Leaves	Stehr & Cook 1968
Lyonetiidae		
<i>Bucculatrix</i> sp.	Leaves	

HOST: *PURSHIA TRIDENTATA* (BITTERBRUSH)

<u>Species</u>	<u>Part affected</u>	<u>Reference</u>
COLEOPTERA		
Buprestidae		
<i>Acmaeodera purshiae</i> Fisher	Stem	
<i>Chrysobothris deleta</i> LeC.	Stem	
Chrysomelidae		
<i>Altica bimarginata</i> Say		
<i>Cryptocephalus sanguinicollis sanguinicollis</i> Suffrian		
<i>Chrysomela lineatopunctata</i> Forster		
<i>Monoxia</i> sp. poss. <i>conspua</i> (LeC.)		
<i>Pachybrachis</i> sp.		
Curculionidae		
<i>Triglyphulus</i> sp.		

<u>Species</u>	<u>Part affected</u>	<u>Reference</u>
DIPTERA		
Cecidomyiidae		
<i>Dasineura</i> sp.		
<i>Leucopis</i> sp.		
<i>Mayetiola</i> sp. (= <i>Phytophaga</i>)	Fruit	
HEMIPTERA		
Cicadidae		
<i>Platypedia</i> sp.	Stem	
Coreidae		
<i>Harmostes reflexulus</i> (Say)		
Lygaeidae		
<i>Nysius angustatus</i> Uhler		
<i>Geocoris pallens</i> Stål		
Miridae		
<i>Adelphocoris rapidus</i> (Say)		
<i>Atractotomus purshiae</i> Froeschner	Leaves	
<i>Capsus simulan</i> (Stål)		
<i>Ceratocapsus</i> sp.		
<i>Deraeocoris fulgidus</i> (V.D.)		
<i>Labops hirtus</i> Knight		
<i>Psallus pilosulus</i> (Uhler)		
Pentatomidae		
<i>Apateticus crocatus</i> (Uhler)		
<i>Brochymena quadripustulata</i> (Fab.)		
<i>Holcostethus abbreviatus</i> (Uhler)	Leaves	
<i>Chlorochroa ligata</i> (Say)	Leaves	
<i>sayi</i> (Stål)	Leaves, seed	Caffrey & Barber 1919
<i>Thyanta pallidovirens</i> (Stål)	Leaves	
<i>Zicrona caerulea</i> (Linn.)		
Scutelleridae		
<i>Eryggaster</i> sp.		
<i>Homaemus bijugis</i> Uhler		
Tingidae		
<i>Gargaphia opacula</i> Uhler	Leaves	

<u>Species</u>	<u>Part affected</u>	<u>Reference</u>
HOMOPTERA		
Aphididae		
<i>Macrosiphum avenae</i> (Fab.)		
<i>purshiae</i> Palmer		
Cercopidae		
<i>Aphrophora permutata</i> Uhler		
Cicadellidae		
<i>Aceratagallia</i> sp.		
<i>Erhthroneura</i> sp.		
<i>Gyponana</i> sp.		
<i>Neocoelidia</i> sp.		
<i>Osbornellus borealis</i> DeLong and Mohr		
<i>Paraphlepsius</i> sp.		
<i>Scaphytopius</i> sp.		
Cicadidae		
<i>Platypedia</i> sp.	Twigs	
Coccidae		
<i>Anisococcus quercus</i> (Ehrhorn)		McKenzie 1967
<i>Lecanium cerasifex</i> Fitch	Stem	
<i>Phenacoccus eriogoni</i> Ferris		McKenzie 1967
Diaspididae		
<i>Lepidosaphes ulmi</i> (Linn.)	Stem	
Psyllidae		
<i>Arytaina pubescens</i> Crawford		
<i>Psylla coryli</i> Patch	Fruit	
<i>hirsuta</i> (Tuthill)		
<i>media</i> Tuthill	Leaves	
LEPIDOPTERA		
Crambidae		
<i>Crambus plumbifimbriellus</i> Dyar		
Gelechiidae		
<i>Filatima</i> sp. (near <i>abactella</i>)	Leaves	
<i>Filatima sperryi</i> Clarke	Leaves	
<i>Gelechia mandella</i> Busck.	Leaves	
Geometridae		

<u>Species</u>	<u>Part affected</u>	<u>Reference</u>
<i>Anacamptodes clivinaria profanata</i> (B. & McD.)	Leaves	See mountain mahogany
<i>Chlorosea</i> sp. prob. <i>margaretaria</i> Sperry	Leaves	
<i>Chlorosea nevadaria</i> Pack.	Leaves	
<i>Itame colata</i> (Grt.)	Leaves	
<i>Marmpoteryx marmorata</i> Pack.	Leaves	
<i>Semiothisa californiaria</i> (Pack.)	Leaves	
<i>denticulata sexpuncta</i> Bates	Leaves	
Lasiocampidae		
<i>Malacosoma californicum</i> (Packard)	Leaves	Stehr & Cook 1968
Lymentriidae		
<i>Orgyia vetusta gulosa</i> (Boisd.)	Leaves	See ceanothus
Psychidae		
<i>Apterona helix</i> Siebold	Leaves	Robinson 1953
Pyralidae		
<i>Ephestiodes erythrella</i> Ragonot	Leaves	
<i>Myelopsis conielia</i> (Rag.)	Leaves	
Saturniidae		
<i>Hemileuca nuttalli</i> Strecker	Leaves	
Tortricidae		
<i>Choristoneura rosaceana</i> (Harr.)		
<i>Sparganothis tunicana</i> (Wism.)	Seedlings	
Yponomeutidae		
<i>Trachoma walsinghamiella</i> Bsk.	Leaves	
ORTHOPTERA		
Acrididae		
<i>Melanoplus sanguinipes sanguinipes</i> (Fab.) <i>bivittatus</i> (Say)		
<i>Oedaleonotus enigma</i> (Scudder)		
<i>Schistocerca lineata</i> Scudder		
<i>Spharagemon equale</i> (Say)		
THYSANOPTERA		
Thripidae		
<i>Frankliniella occidentalis</i> (Pergande)	Buds & flowers	Bryan & Smith 1956

<u>Species</u>	<u>Part affected</u>	<u>Reference</u>
ACARINA		
Eriophyidae		
<i>Aceria kraftella</i> K.	Leaf galls	Kiefer 1959
<i>Aceria tridentatae</i> K.	Twig galls	
Phytoseiidae		
<i>Typhlodromus mcgregori</i> Chant		
Tetranychidae		
<i>Bryobia</i> sp.	Leaves	
<i>Eotetranychus perplexus</i> (McG.)	Leaves	

HOST: SALIX SPP. (WILLOWS)

<u>Species</u>	<u>Part affected</u>	<u>Reference</u>
COLEOPTERA		
Buprestidae		
<i>Agrilus politus</i> (Say)	Stem	
<i>Buprestis langi</i> Mann.	Stem	
<i>Chrysobothris azurea</i> LeC.	Stem	
<i>mali</i> Horn	Stem	
<i>femorata</i> (Oliv.)	Stem	
<i>Poecilonota fraseri</i> Chamberlin	Stem	
<i>Polycesta californica</i> LeC.	Stem	
Cerambycidae		
<i>Anoplodera aspera</i> (LeC.)	Stem	Linsley 1962
<i>Dendrobias mandibularis reductus</i> Casey		
<i>Hyperplatys</i> sp.	Stem	
<i>Ipochus fasciatus</i> LeC.		Linsley 1962
<i>Malacopterus tenellus</i> (Fab.)		
<i>Necydalis diversicollis</i> Schaeffer		
<i>Oberea quadricollis</i> LeC.		Linsley 1964
<i>Phymatodes blandus</i> (LeC.)		Linsley 1964
<i>Rosalia funebris</i> Mots.		
<i>Saperda</i> spp.	Stem	
<i>Stenosphenus nigricornis</i> Fisher		Linsley 1963
<i>debilis</i> Horn.		Linsley 1963
<i>Synaphaeta quexi</i> (LeC.)		

<u>Species</u>	<u>Part affected</u>	<u>Reference</u>
<i>Xylotrechus insignis</i> (LeC.)		Linsley 1964
<i>mormonus</i> (LeC.)	Stem	
<i>nunenmacheri</i> Van Dyke		Linsley 1964
Chrysomelidae		
<i>Altica ambiens</i> (LeC.)	Leaves	
<i>Calligrapha verucosa</i> Suff.	Leaves	
<i>Chrysomela</i> sp. prob. <i>confluens</i> Rogers	Leaves	
<i>Chrysomela lineatopunctata</i> Forster	Leaves	
<i>Disonycha</i> sp. prob. <i>latiovittata</i> Hatch	Leaves	
Curculionidae		
<i>Anthonomus haematopus</i> Boh.		
<i>Magdalis gracilis</i> LeC.		
<i>Sternochetus lapathi</i> (Linn.) (= <i>Cryptorhynchus</i>)	Stem	Furniss 1971b Harris & Coppel 1967
Nitidulidae		
<i>Cryptarcha ampla</i> Er.	Stem	
<i>Lobiopa undulata</i> (Say)		
Scolytidae		
<i>Cryphalus nitidus</i> (Sw.)	Stem	
<i>Xyleborus saxeseni</i> (Ratz.)	Stem	
<i>dispar</i> (Fab.)	Stem	
DIPTERA		
Agromyzidae		
<i>Agromyza</i> sp.	Galls	
Cecidomyiidae		
<i>Mayetiola rigidae</i> (O.S.)	Galls	
<i>Rhabdophaga</i> sp.	Galls	
HEMIPTERA		
Tingidae		
<i>Corythucha salicata</i> Gibson	Leaves	
HOMOPTERA		
Aphididae		
<i>Chaitophorus nigrae</i> Oestlund	Galls	
Coccidae		

<u>Species</u>	<u>Part affected</u>	<u>Reference</u>
<i>Pseudococcus obscurus</i> Essig		
Diaspididae		
<i>Lepidosaphes ulmi</i> (Linn.)	Stem	
HYMENOPTERA		
Argidae		
<i>Arge clavicornis</i> (Fab.)		
Cimbicidae		
<i>Cimber americana</i> Leach		
<i>pacifica</i> Cresson		
<i>Trichiosoma triangulum</i> Kirby		
Eurytomidae		
<i>Eurytoma</i> sp.	Galls	
Tenthredinidae		
<i>Amauronematus</i> spp.	Catkins, foliage	
<i>Caliroa labrata</i> MacGillivray		
<i>Euura breweriae</i> E. L. Smith	Stem gall	E. L. Smith 1968, 1970
<i>exiquae</i> E. L. Smith	Stem gall	E. L. Smith 1968, 1970
<i>geyerianae</i> E. L. Smith	Stem gall	E. L. Smith 1968, 1970
<i>lasiolepis</i> E. L. Smith	Stem gall	E. L. Smith 1968, 1970
<i>lemmoniae</i> E. L. Smith	Stem gall	E. L. Smith 1968, 1970
<i>scoulerianae</i> E. L. Smith	Stem gall	E. L. Smith 1968, 1970
<i>Messa wuestneii</i> (Kunow)	Leaf miner	
<i>Nematus chalceus</i> (Marlatt)		
<i>occidentalis</i> (Marlatt)		
<i>oligospilus</i> Foerster		
<i>Phyllocolpa</i> sp.	Leaf edge roll	
<i>Pontania californica</i> Marlatt	Leaf gall	
<i>pacifica</i> Marlatt	Leaf gall	
<i>Pristiphora</i> spp.		
<i>Trichiocampus irregularis</i> (Dyar)		
LEPIDOPTERA		
Aegeriidae		
<i>Aegeria tibialis pacifica</i> (Hy. Edw.)	Stem	
<i>Synanthedon albicornis</i> (Hy. Edw.) (=Aegeria)	Stem	

<u>Species</u>	<u>Part affected</u>	<u>Reference</u>
Arctiidae		
<i>Hyphantria cunea</i> (Drury)	Leaves	
Cossidae		
<i>Prionoxystus robiniae</i> (Peck)	Stem	
Lasiocampidae		
<i>Malacosoma californicum</i> (Packard)	Leaves	Stehr & Cook 1968
<i>disstria</i> Hübner	Leaves	
Lymantriidae		
<i>Orgyia vetusta gulosa</i> (Boisd.) (= <i>Hemerocampa</i>)	Leaves	See <i>ceanothus</i>
Nymphalidae		
<i>Nymphalis antiopa</i> (Linn.)	Leaves	Weed 1899
Saturniidae		
<i>Hemileuca maia</i> (Drury)	Leaves	
<i>nevadensis</i> Stretch	Leaves	
Tortricidae		
<i>Archips cerasivorana</i> Fitch	Leaves	
ACARINA		
Eriophyidae		
<i>Aculops tetanothrix</i> (Nalepa)	Leaves	
<i>Aculops</i> n.sp.	Leaves (Alaska)	

